

**OXIDATION-REDUCTION POTENTIAL (ORP) DURING
MICROBIAL TRANSFORMATION PROCESSES UNDER
SEWER CONDITIONS**

By

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Report is submitted as
the requirement for the degree of
Bachelor Engineering (Hons) (Civil)

**UNIVERSITI TEKNOLOGI MARA
OCTOBER 2004**

ABSTRACT

Sewer systems in Malaysia have been design solely to perform mass transport function, while wastewater treatment plants (WWTPs) are considered stand-alone treatment units. However, microbial transformation processes in sewer have been neglected in design of sewers.

The purposes of this project are to determine the range of ORP that promotes aerobic, anoxic and anaerobic processes in municipal wastewater.

Wastewater samples for this study were taken from wastewater treatment plant (WWTP) at Mawar College, UiTM Shah Alam and a manhole near old civil engineering laboratory.

Two types of batch reactors were used in this study. The first reactor, subjected to aerobic conditions was used to investigate the COD-fraction of the wastewater. The second reactor was used for ORP experiments to determine range of ORP value during the transformation processes.

KEYWORDS

Oxidation reduction potential (ORP), COD-fractions, microbial transformation, in sewer processes

DECLARATION BY THE CANDIDATE

I Farizah Bt Mahaya, 2002238851 confirm that the works is my own and that appropriate credit has been given where reference has been made to the works of others.

(October 13,2004)

ACKNOWLEDGEMENT

All praise to Allah. Lord of Universe, The Merciful and Gracious. Selawat and salam to Nabi Muhammad, he is the follow of the companions and the people who follow his path. First of all, I would like to express my gratitude to Allah for His Help and Guidance I have managed to complete this report.

I would like to take this opportunity to express special gratitude to my project advisors, Assoc. Prof. Ir. Dr. Haji Suhaimi bin Abdul Talib for his continued help, patience, guidance, constructive comment and keen contribution in completing this project.

Very special thanks to my beloved parents for their understanding, encouragement and fully support especially in terms of moral and finance during the completion of this project.

My deepest gratitude are also due to all lab staffs who are kindly assisted me in various way in doing experimental works especially Cik Maizurah Misuan, Cik Noora Samsina Johari and Encik Hazeri Othman.

Last but not least, I would like to express my greatest thanks to all my friends and those who are involved directly or indirectly towards the successful of this project.

Thanks A lot, Wassalam.

Farizah bt Mahaya

October 2004.

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